ABSTRACT OF THE DISCLOSURE

The present invention provides a software engine, a CBOM (collaboration bill of materials), to automate the collaboration process on a BOM that is distributed over the supply chain network and the demand chain network. In one embodiment of the invention, the CBOM

5   comprises a rules engine, an optimization engine, an applications server and a database server. The rules engine implements rule-based decision making functions. The optimization engine of the CBOM allows the distributed system to resolve routine problems that may reoccur on a regular basis and provide a preferred, well--tested and unambiguous resolution to the routine problems. In one embodiment of the invention, the CBOM monitors for an arrival of an input or

10   an event entered by a business party in the distributed production system. When an input is received by the CBOM, the CBOM performs an intelligent decision making by determining whether the input represents an out-of-tolerance case. If the input represents an out-of-tolerance case, the CBOM notifies a user or other business parties across the distributed system of difficulties and delays in production. If the input does not represent an out-of-tolerance case, the

15   optimization engine of the CBOM crafts a corrective action in response to the input.